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A National Environmental/Energy Workforce Assessment. New Hampshire

National Field Research Center, Inc, Iowa City, Iowa

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A National Environmental/Energy Workforce Assessment

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16. ABSTRACT

This study is one of 70 volumes assessing the workforce needs (manpower needs) for pollution control and abatement in the United States for the five-year period of 1976 through 1981. Seven fields for pollution control — air, noise, pesticides, potable water, radiation, solid waste, and wastewater — are analyzed, together with energy-related programs currently accentuated by the national effort to solve energy supply problems.

Designed as Phase I of a three-phase program, the complete assessment includes the following volumes: one each for the 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands; one for each of the ten EPA regions; a one-volume National Abstract; a volume on National Legislation; a volume on Business and Industry; and a four-volume National Summary. The information was gathered through extensive personal interviews with responsible federal, state, and local officials in every state; with officials of representative private industrial and commercial firms; and with representatives of national industrial and trade organizations.

Phase II will develop a broad national inventory of the entire range of post-secondary and higher education training offered in the pollution control and energy areas cited above, and Phase III will offer demonstrations for curriculum changes or modifications which appear necessary to assure an adequate and properly trained national environmental/energy workforce.

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WORKFORCE ASSESSMENT

for

NEW HAMPSHIRE

Conducted by:

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Under Grant from:

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ENVIRONMENTAL PROTECTION AGENCY

Grant #T900591010

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Finally, Mr. Bernie Lucie, Mr. Steve Leavenworth, and Mr. Don Peters of the New Hampshire Water Supply and Pollution Control Commission, graciously provided information concerning both wastewater and water supply program regulation efforts in the state.

PREFACE

This report presents existing workforce levels, training programs, and career potentials and develops staffing level projections (1976 - 1981) based on available information for the State of New Hampshire in the environmental pollution control areas of air, noise, pesticides, potable water, radiation, solid waste, wastewater, and energy. This study was carried out for the United States Environmental Protection Agency by National Field Research Center of Iowa City, Iowa.

The information and data presented in this report were compiled in large part from extensive interviews with professionals working in the respective areas and were supplemented by telephone surveys and research.

FOREWORD

The material herein contains the information and data collected for eight individual pollution control inventories conducted for the State of New Hampshire. The format includes workforce profiles, projections, growth and career potential for each of the areas investigated. Growth projections are necessarily based on best professional estimates developed from available information and represent what are felt to be realistic figures by experts in the respective areas. The pollution control areas considered by this study are as follows:

Air

Noise

Pesticides

Potable Water

Radiation

Solid Waste

Wastewater

Energy

National Environmental Energy
Workforce Assessment

Phase I

NEW HAMPSHIRE

State Summary

I. AIR

The State Air Pollution Control Agency of the New Hampshire Department of Health and Welfare is composed of engineers, technicians, chemists, and meteorologists. Professionals within the State Air Pollution Control Agency expect to acquire no additional personnel over the next two years or even by 1981. Sources at the Control Agency point out that at very leas*, five to nine additional technical and professional air pollution control personnel are needed to conduct in-house and field enforcement activities.

Those persons who are likely to find positions in the air pollution control field will continue to be degreed engineers and scientists as well as technicians who are knowledgeable in combustion, measurement, and instrumentation.

The New Hampshire Air Pollution Control Agency is in need of additional technical and professional personnel to ensure the successful completion and maintenance of its air implementation plan. Currently, 21 individuals are charged with all responsibilities of ensuring total compliance with regulations promulgated under the Clean Air Act; however, it has been suggested that an adequate workforce should be in the range of 27-30 full-time employees.

II. NOISE

Within the State of New Hampshire the Air Pollution Control Agency has been designated as the principal contact for all noise-related matters. Since there is no legislative mandate within the state, a formal program does not exist. Currently less than one person-year is devoted to noise problems. Those complaints that do develop are generally referred to the state attorney general's office which acts as an arbitrator, with the Air Pollution Control Agency providing various consultant services if necessary.

Additionally, the New Hampshire Department of Transportation regulates off-road vehicle sound limits as well as sound limits generated by snowmobiles. The time devoted to this activity by this agency is also considered minimal. Finally, at the local level several towns in the state have developed municipal noise ordinances which together serve about 18 percent of the state's entire population. These are strictly nuisance laws and possess no acoustical criteria for regulation.

III. PESTICIDES

The pesticide program of New Hampshire's Department of Agriculture (NHDOA) is responsible for the implementation of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) as amended. The program has recently been concerned with the development and implementation of a state plan to certify all commercial and private applicators in the state in conjunction with the New Hampshire Cooperative Extension Service.

The Pesticide Control Division currently employs two professionals, a field inspector, and clerk typist. There were an estimated 250 certified commercial and 500 private applicators in New Hampshire in 1975.

Currently, these is a request to the State Legislature for authorization of additional field personnel to comply with increased responsibilities under FIFRA. Growth within the next five years will result in the addition of four to five field inspectors to monitor all application and distribution activities associated with EPA's restricted-use list. It is estimated that 750 commercial and 900 private applicators will have undergone training and certification as required under FIFRA by October 1977.

IV. POTABLE WATER

The water supply program of the state of New Hampshire is in the New Hampshire Water Supply and Pollution Control Commission. At this time, the state has every intention of accepting all delegations of authority under the Safe Drinking Water Act (SDWA) of 1974, and state legislation is being developed and upgraded to satisfy all primacy requirements. Priorities for ensuing years will be directed towards ensuring that New Hampshire successfully accepts primacy for implementing the provisions and regulations of SDWA.

The water supply program has responsibilities in regulating both the state's drinking water and its municipal wastewater facilities. It is composed of sanitary engineers, inspectors, sanitarians, a chemist and an accountant. Additionally, the water supply program calls upon the services of the Laboratory Committee, which is also located within the Commission. It is composed of five laboratory scientists, two laboratory assistants, and a technician.

No increases in state funding for the water supply program are anticipated. It has been suggested that the potential addition of two positions will be utilized for community system compliance with regulations promulgated under SDWA pursuant to the state's acceptance of primacy.

V. RADIATION

The New Hampshire State Radiation Control Agency, which is administered by a director of the State Air Pollution Control Agency, both within the New Hampshire Department of Health and Welfare, is responsible for implementing statewide plans to control and limit the uses of both ionizing and non-ionizing radiation.

The Radiation Control Agency is staffed by a program administrator, a radiological health director, and a radiological health specialist. Less than one-half person-year is devoted to environmental radiation monitoring.

The New Hampshire radiation control program has remained at a constant workforce level for the past five years, and it is expected that over the next five years the situation concerning staffing will remain constant. The program could effectively utilize the assistance of an additional professional to supplement current activities in environmental radiation control. This person would likely be a radiological health specialist. Training for the agency's three employees is extensive since the state has obtained agreement-state status with the U.S. Nuclear Regulatory Commission. Thus, employees may attend the numerous continuing education courses free of charge.

VI. SOLID WASTE

The Bureau of Solid Waste Management in the State of New Hampshire is located in the Division of Public Services within the Department of Health and Welfare. Currently, New Hampshire laws require every municipality to provide and maintain a sanitary landfill facility for refuse generated by its citizens. The sites are approved by the Bureau and a community must satisfy extensive testing requirements prior to site approval to ensure preservation of existing potable and surface waters.

The Bureau of Solid Waste Management is currently staffed by five individuals who have civil engineering, scientific, and clerical backgrounds. The program also relies upon the New Hampshire State Laboratory for laboratory analysis of leachates as well as soil samples and water quality samples.

With the passage of the Resource Conservation and Recovery Act of 1976, New Hampshire has determined that it will supplement its current program staff with two or three more professionals over the next five year period pursuant to appropriate federal funding. These individuals likely will have field experience and, in particular, will possess an intimate knowledge of hazardous wastes, their collection, transportation, storage, and ultimate disposal.

VII. WASTEWATER

The New Hampshire Water Supply and Pollution Control Commission has management of wastewater facilities responsibilities. The wastewater program of the Commission is staffed with sanitary, civil, public works, and soils engineers. It also employs aquatic biologists, laboratory scientists, sanitarians and technicians. Approximately 70-85 person-years are spent on federal wastewater programs under PL 92-500 (Water Pollution Control Act).

Most sanitary and civil engineers employed by the Commission are registered professional engineers and hold at least a master's degree. Program professionals have indicated that at least one environmental engineer, one soil scientist, and one public health specialist would be acquired by the program in the immediate future (1977).

At the local level, it is anticipated that the operator workforce would have approximately 30 new entries per annum. The potential for operator careers appears promising due to the growth of new wastewater plants.

VIII. ENERGY

New Hampshire has turned to nuclear power as a possible solution to its energy problem. Public Service of New Hampshire has one unit under construction and another unit under review to be located at Seabrook. The first is scheduled for completion in 1981 or 1982, and the second in 1983 or 1984.

The Governor's Council on Energy was created by executive order in June of 1973 to develop programs regarding distribution and consumption of fuel and energy. It administers the fuel allocation program and has compiled data sources for use in supply/demand projections for the New England Energy Management Information System.

STATE OF NEW HAMPSHIRE - SUMMARY

National Environmental/Energy Workforce Assessment
Pollution Control & Abatement Personnel
Projected Workforce Requirements (1976-1981)

Environmental Area	1976	1977	1978	1979	1980	1981	%/annum growth (average)
AIR[1]	21	21	21	--	--	--	N/A
NOISE[2]	2	2	2	2	2	2	0%
PESTICIDES[3]	4	--	--	--	--	9	N/A
POTABLE WATER[4]	781	--	--	--	--	--	N/A
RADIATION[5]	3	3	3	3	3	3	0%
SOLID WASTE[6]	5	--	--	--	--	--	N/A
WASTEWATER[7]	107	(110)	(110)	--	--	--	N/A
ENERGY[8]	--	--	--	--	--	--	N/A
TOTALS	923	--	--	--	--	--	N/A

[1]The above includes state agency personnel only. The private and local sector effort although not accurately identifiable is thought to be limited.

[2]The above represents 1 individual from the state Air Pollution Control Commission and 1 representative from the Attorney General's Office.

[3]The above represents state agency personnel only. As of December 1975, 750 pesticide applicators had been licensed in the state. By October 1977, it has been estimated that this workforce will increase to a level of 1650.

[4]The above depicts 21 state agency personnel and an estimated 760 individuals possessing varying degrees of local water supply responsibilities.

[5]The above reflects state agency personnel only.

[6]The above includes only state agency personnel.

[7]The above reflects only state agency personnel.

[8]No available data.

EDUCATION

There are several colleges and universities in New Hampshire which offer programs in environmental science and pollution control technology. Three colleges with environmental options were examined in detail in the body of the report: Dartmouth, New England College, and New Hampshire Vocational Technical College.

Dartmouth offers an Environmental Studies Emphasis. Each student enrolled in the program is required to elect a minimum of four courses. The general emphasis of the program is to provide the student with a fundamental understanding of the relationship of environmental problems to man, the ecosystem, public policy, public health, and energy.

A bachelor's degree in Environmental Studies is awarded at New England College. This program stresses a strong science background supplemented by individual study.

Numerous career options are offered through the Natural Resource Management program at New Hampshire Vocational Technical College. Eleven options are available and include: Generalist, Forest Management Technician, Forest Nursery Technician, Forest Survey Technician, Parks and Recreation Technician, Soil Conservation Technician, Water Supply Technician, Plane Surveying Technician, Wastewater Technician, Land Planning Technician, and Cartography Technician.

While individual courses with an environmental emphasis are frequently offered at other state colleges and universities, these courses were not catalogued during this phase of the study.

LEGISLATION

The environmental/energy legislation for New Hampshire was obtained by request from various agency personnel and through various library references. Summaries of the legislation deemed most relevant to the eight subject areas of the workforce assessment were prepared, and are included in the respective state reports. The following list of laws represents virtually all environmental legislation for the state. Only certain of the following laws were summarized; the list is presented to show, by title, the kinds of laws which have been enacted.

Air Pollution Control Law

Pesticides Control Act

Radiation Protection and Control Law

Laws Relating to Solid Waste Disposal

Motor Vehicle Junkyards Law

Oil Spillage in Public Waters Law

Water Pollution Control Law

National Environmental Energy
Workforce Assessment

Phase I

NEW HAMPSHIRE

State Report

STATE PROFILE

New Hampshire covers 9,304 square miles, bounded on the north by Quebec and Maine, on the east by an 18 mile stretch of Atlantic ocean-front, by Massachusetts in the south, and by Vermont to the west. The land is mountainous (eight mountains are more than a mile high) and is heavily forested in the north. New Hampshire is drained by five major river systems, of which the Connecticut and Merrimack are the largest.

The majority of the population, estimated at 818,000 in 1975, is located in the southern part of the state. Manchester has approximately 90,000 people; Nashua, 60,000. Urban population is about 60 percent. Persons over 65 comprise 11 percent of the total population. Per capita income was $5,210 in 1975.

Wages from manufacturing account for 40 percent of the total income. Value added by manufacture is about $1.5 billion annually. The sections of the economy are broken out as follows:

Manufacturing	39%
Wholesale and retail trade	16%
Services	14%
Government	13%
Construction	7%
Transportation, communications and public utilities	5%
Finance, insurance and real estate	5%
Other	1%

Shoes and boots, wool and other textiles, and paper are important industries. Space age industries such as electrical machinery and electronics are becoming increasingly important. Most industries are concentrated in the two major river valleys and along the coast.

Tourism is the second highest contributor to the state's economy, producing $400 million per annum. Farm receipts amounted to $72 million in 1975, with dairy and poultry products contributing 55 percent. Apples, peaches, hay, corn, and maple syrup are major crops. Agricultural acreage declined by nearly 70 percent between 1910 and 1970. Sand, gravel, and construction stone (granite) accounted for the lion's share of the 1975 mineral products income of $13 million.

NEW HAMPSHIRE POLLUTION CONTROL AND ABATEMENT AGENCIES

The Water Supply and Pollution Control Commission, the Department of Health and Welfare, the Governor's Council on Energy, and the Department of Agriculture all share responsibility for New Hampshire's pollution abatement and control programs.

The New Hampshire Water Supply and Pollution Control Commission has responsibility for supervising the state's water quality, water supply, and industrial waste efforts. Unlike some similar state agencies, the Commission has its own in-house analytical laboratory capabilities staffed with a number of sanitary engineers.

The components within the New Hampshire Department of Health and Welfare which have pollution control and abatement responsibilities are the Air Polllution Control Agency, the Radiation Control Agency, and the Division of Public Health. The Air Pollution Control Agency administers the state's air quality and noise programs and also has its own analytical laboratory capabilities. The Division of Public Health conducts the solid waste programs, while the Radiation Control Agency is in charge of radiation programs.

The purpose of the Governor's Council on Energy is to develop programs regarding distribution and consumption of fuel and energy.

The Pesticides Control Division of the Department of Agriculture, under the supervision of the Pesticides Control Board, is responsible for pesticide programs in the State of New Hampshire including the Pesticide Applicator Certification program. The Pesticide Control Board adopts, after public hearing, regulations for pesticide use, sale, and disposal including the designation of state-restricted and limited-use pesticides.

The State Cooperative Extension Service of the University of New Hampshire complements the Department of Agriculture effort by conducting the certification and licensing training programs for pesticide applicators.

Pollution Control and Abatement Programs

I. AIR

A. Introduction

New Hampshire's State Air Pollution Control Agency is responsible for state implementation of applicable provisions of the Clean Air Act of 1970. Current activities and responsibilities of the State's Air Pollution Control implementation plan include:

1) New Source Review,

2) Stationary Existing Point Sources,

3) Ambient Monitoring,

4) Minor Sources.

Transportation control plans for the state as well as inspection and maintenance programs for vehicular emissions control equipment are not required. The New Source Performance Standards (NSPS) and National Emissions Standards for Hazardous Air Pollution (NESHAPS) programs have been delegated in part to New Hampshire. The law requires the establishment of standards for performance for new stationary sources of air pollution and previous stationary sources if, when modified, produce more emissions.

Within the state there are approximately 66 industries capable of emitting over 100 tons of pollutants each year. Of these, 63 are currently in compliance with existing state and federal standards while only 2 are in violation. During FY 1976, over 210 field investigations were made by state personnel to determine industry compliance with promulgated standards and regulations. Forty-four notices of violation were issued. If compliance is impossible during a reasonable amount of time, a state order is issued which presents a realistic timetable for repairs

or corrections. During FY 1976, a total of 11 orders were issued. Finally three civil proceedings were initiated against owners/operators who failed to meet state order deadlines.

B. Workforce Profile

The State Air Pollution Control Agency of the New Hampshire Department of Health and Welfare has the following organizational structure.

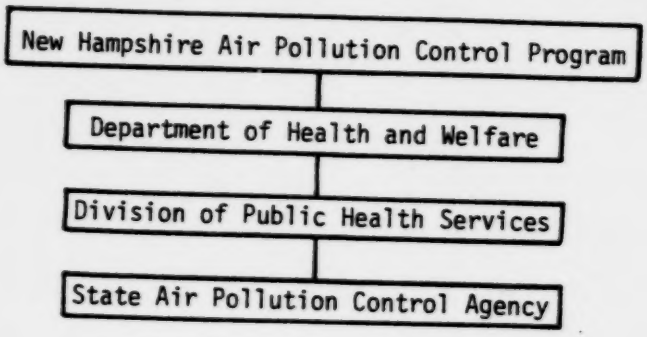

New Hampshire Air Pollution Control Program
Department of Health and Welfare
Division of Public Health Services
State Air Pollution Control Agency

Table I depicts the current staffing level of Air Pollution Control Program.

TABLE I

STATE OF NEW HAMPSHIRE

Department of Health and Welfare
Division of Public Health Services
Current (1976) Staffing Level

Position	1976
Director*	1
Administrative Assistant	1
Engineer	5
Chemist	1
Meteorologist	1
Technicians	9
Laboratory Assistant	1
Clerk/Secretary	2
TOTAL	21

* This individual is responsible for both the state's radiation and air programs and spends considerably more time on radiation related activities.

Workforce statistics for the local and private sectors are unavailable but are thought to be limited. Generally, those industries which operate pollution control equipment delegate the operator and maintenance aspects of the equipment to their chief technical engineer who has many other responsibilities beyond air pollution abatement and control. If problems arise, outside consultants or equipment manufacturers usually are called upon for assistance.

C. Workforce Projections

Professionals within the New Hampshire Air Pollution Control Agency expect to acquire no additional personnel over the next two years. While projections beyond that time are difficult to make, it appears that little, if any, staffing growth will occur over the next five years in the state air program. Persons who choose to leave the program will be replaced. To date, the rate of turnover has averaged five percent per annum, or one employee per year.

Sources at the agency point out that at least five to nine additional technical and professional air pollution control personnel are "desparately" needed to conduct in-house and field enforcement activities. However, New Hampshire's fiscal system, through which no state income taxes are levied, precludes such personnel increases. Thus, unless EPA state assistance funding should increase, no new employees can be hired.

Projections for the local and private sectors cannot be made at the present time because of the lack of information on the nature and extent of the current workforce there.

D. Training and Certification

Training activities for state air program personnel are limited. The EPA Air Pollution Training Institute (APTI), which offers a variety of courses in Region I Headquarters (Boston) as well as Research Triangle Park (RTP), is the principal mechanism for securing state of the art air pollution control training. During 1976 the New Hampshire air program sent one individual to APTI sponsored courses. The major complaints of the New Hampshire's air program directed at these courses concern the tuition and travel costs involved which make extensive participation, though desirable, prohibitive.

The state, itself, has a limited continuing education policy. Individuals desiring to seek further education in a field related to their work are partially reimbursed and permitted time off for their efforts. Currently, the air program has a training budget of $2,500 per year which is extremely limited. Area schools offer a variety of supportive (administrative) courses which agency personnel sometimes attend at night. Additionally, agency personnel have taught a variety of courses at these post secondary institutions.

Another source of training which the Air Pollution Control Agency has impacted for its employees is the New England Consortium for Environmental Protection. Generally, short term training programs have been financed through this EPA-funded group. Finally, training offered to individuals in the private sector by the state air program comes solely in the form of on-site technical assistance.

E. Career Potential

Because workforce growth in the public sector air program will be minimal over the next five years, career potential will be limited. Although accurate private workforce projections cannot be made at the present time, extensive career potentials are not expected to develop here either. Those persons who do find opportunities in the air pollution control field will continue to be degreed engineers and scientists as well as technicians who are knowledgeable in combustion measurement and instrumentation.

F. Conclusion

The New Hampshire State Air Pollution Control Agency is in need of additional professional and technical personnel to ensure the successful completion and maintenance of its air implementation plan. Currently, 21 individuals are charged with all responsibilities of ensuring total compliance with all regulations promulgated under the Clean Air Act; however, it has been suggested that an adequate workforce should be in the range of 27-30 full-time employees. The state's fiscal program, combined with EPA's tenuous commitment to supplant state funding with additional federal monies, suggest that no new positions will open at the state level, at least within the next 2 years and possibly over the next five years. Finally, EPA-sponsored training has been considered too costly by agency personnel despite their desire to attend and upgrade their operation and procedures. The Agency would like to receive a direct delivery of EPA air pollution control training at no cost; however, this appears unlikely for the near future.

II. NOISE

Within the State of New Hampshire the Air Pollution Control Agency has been designated as the principal contact for all noise-related manners. Since there is no legislative mandate within the state, a formal program does not exist. Currently less than one person year is devoted to noise proglems. Those complaints that do develop are generally referred to the state attorney general's office which acts as an arbitrator, with the Air Pollution Control Agency providing various consultant services if necessary.

Additionally, the New Hampshire Department of Transportation regulates Off-Road Recreational Vehicle Sound Limits as well as sound limits generated by snowmobiles. The time devoted to this activity by this agency is also considered minimal. Finally, at the local level several towns in the state have developed municipal noise ordinances which together serve about 18% of the states entire population. These are strictly nuisance laws and possess no acoustical criteria for regulation.

III. PESTICIDES

A. Introduction

The pesticide program of New Hampshire's Department of Agriculture (NHDOA) is responsible for the implementation of the Federal Insecticide, Fungicide, Rodenticide Act (FIFRA), as amended. Specifically, FIFRA requires the state to regulate all pesticide distribution of use-related activities in compliance with minimum standards under the act. The program has recently been concerned with the development and implementation of a state plan to certify all commercial and private applicators in the state, in conjunction with the New Hampshire Cooperative Extension Service. This program trains and certifies pesticide applicators to ensure their competence in handling restricted-use pesticides.

Further, all pesticides distributed within the state are required to be registered on an annual basis with the Department. Regulatory and enforcement responsibilities also under the jurisdiction of NHDOA include:

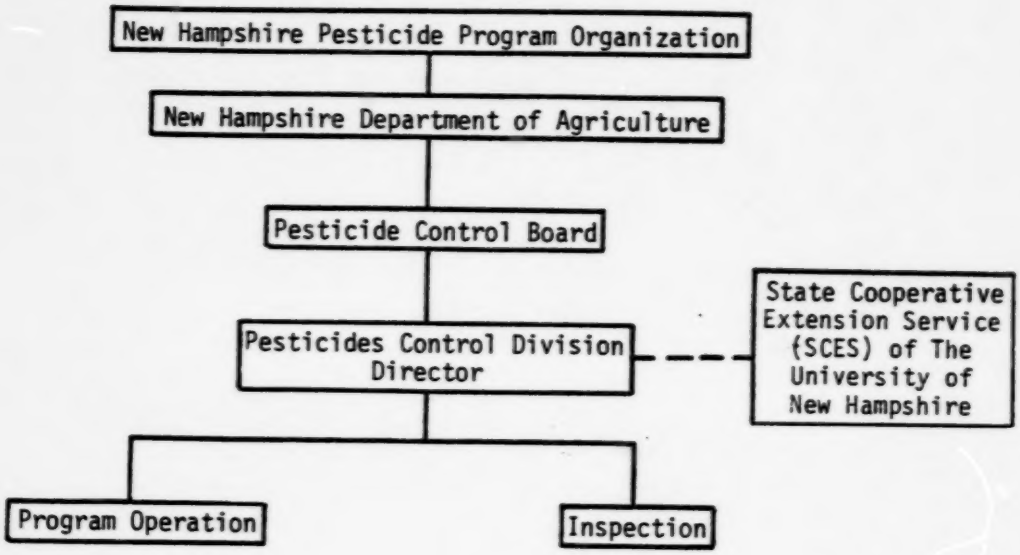
1) Registration of products,
2) Issuance of special use permits,
3) Licensing of private and commercial applicators,
4) Licensing of dealers,
5) Coordination of field, laboratory and office activities.

There are two types of registered commercial applicators, supervisory and operational. At least one employee at the supervisory or managerial level of any pest control business applying pesticides for profit must hold a supervisory certificate. Application operators must also have at least one operational or supervisory person present during

application procedures. Private applicators are certified for general and restricted use of pesticide products. This category of applicator is composed principally of farmers.

B. Workforce Profile

The Pesticides Control Division of the New Hampshire Department of Agriculture has the following organizational structure.


New Hampshire Pesticide Program Organization
New Hampshire Department of Agriculture
Pesticide Control Board
Pesticides Control Division Director
State Cooperative Extension Service (SCES) of The University of New Hampshire
Program Operation
Inspection

There are currently 4 people employed by the program. As shown above, an active relationship exists with New Hampshire's Cooperative Extension Service, which has been designated as the primary mechanism for the delivery of all applicator training. The Office of Pesticide Coordinator of the State Cooperative Extension Service (SCES) coordinates all training throughout the state and is supported by the state and county extension service specialists. Table II presents a description of the staff at NHDOA.

TABLE II

STATE OF NEW HAMPSHIRE

Department of Agriculture
Pesticides Control Division
Current (1976) Staffing Level

Position	1976
Professional	2
Field Inspector	1
Clerk/Typist	1
TOTAL	4

Table III depicts the number of licensed commercial and private applicator workforce as of December 31, 1975.

TABLE III

STATE OF NEW HAMPSHIRE

1975 Certified Pesticide Applicators in New Hampshire

Category	1975
Commercial	250
Private	500
TOTAL	750

C. Workforce Projections

The Pesticide Control Division has grown from a staffing level of 2 (1 professional, 1 clerical) in 1975 to its current level of 4 due to an increase in EPA funding for specific enforcement and certification projects. Day-to-day operational expenditures for the program are still the responsibility of the state. Currently, there is a request to the State Legislature for authorization of additional field personnel to comply with

increased responsibilities under FIFRA. Growth within the next five years will result in the addition of four to five field inspectors to monitor all application and distribution activities associated with EPA's restricted-use list described in the introduction.

The anticipated certified applicator workforce by October, 1977, is illustrated in Table IV.

TABLE IV

STATE OF NEW HAMPSHIRE

October, 1977, New Hampshire Pesticide Workforce Levels for the Private Sector

Classification	1977
Commercial Applicator's*	750
Private Applicator's	900
TOTAL	1,650

* Includes federal, state, and municipal government applicators.

D. Training and Certification

Pesticide certification and training activities represent the major thrust of the Pesticide Control Division's program activities. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) as amended requires that all individuals involved in the supervision of the application of restricted use pesticides be trained, examined, and certified in compliance with minimum federal standards. This includes those individuals applying restricted use pesticides for profit, designated as commercial applicators, as well as those individuals involved in applying restricted use pesticides privately, designated as private applicators (usually farmers). Commercial

applicator certification is somewhat more rigorous in its requirements, however. Presently, FIFRA calls for the completion of licensing activities by October of 1977. New Hampshire had a commercial applicator certification program prior to that required by FIFRA.

The State Cooperative Extension Service of the University of New Hampshire is responsible for conducting a comprehensive training program for private and commercial pesticide applicators to aid in the attainment of a level of competency required for certification. Participation in the continuing educational programs of SCES by private and commercial applicators will be used as a basis for recertification. Seminars will be offered on a yearly basis by SCES. Separate seminars will be offered for each commodity group of private applicators and each category for commercial applicators. A Certificate of Attendance will be issued during the third or fourth year to satisfy certificate renewal requirements. An applicator, however, may elect to be examined each fifth year in lieu of meeting the aforementioned training requirements for recertification.

To become certified private applicators must take a written examination in the general knowledge area and a more specific examination covering the commodity group of their particular operation. Commercial applicators are required to take a general examination and a level-specific examination. Additionally, supervisory level commercial applicators must pass an oral examination.

Table V shows the current status of commercial applicator training activities, private applicator training activities, and summarizes the status of all pesticide applicator training in New Hampshire. As pointed

out in this table, New Hampshire has completed over half of its anticipated training responsibilities.

TABLE V

STATE OF NEW HAMPSHIRE

Status of Commercial Applicator Training as of January 1, 1977

	Anticipated Total Training Participants by October, 1977	Numbers Trained as of January, 1977	Numbers Still to be Trained by October, 1977
Commercial	818	318	500
Private	1,483	933	550
TOTAL	2,301	1,251	1,050

Source: Regional Support Branch, Operations Division, Office of Pesticide Programs, U.S. Environmental Protection Agency

It should be noted that the summary numbers shown do not represent the number of certified applicators. All figures indicate the number of participants in individual applicator training sessions on a cumulative basis. For instance, one individual might elect to receive training in more than one licensing category; thus, this individual would be counted more than once in these figures. The preceding table merely shows the bulk of training needed, and the figures are not necessarily proportional in any way to the number of certified pesticide applicators.

Within the Division of Pesticide Control, no formal training exists for employees. On-the-job training, therefore, is the only type of instruction available. This deficiency is a major concern of the Division as its

field people seriously need training to operate more efficiently. Some mechanisms to acquire training monies available from EPA Region I have been used. However, the results were quite minimal.

E. Career Potential

Career Potential at the state level with the Pesticide Control Division of NHDOA will be limited to several field inspector positions, generally associate degree-type positions. The extent of new career openings in the private sector are unknown and will not be readily determinable until the present workforce is certified, thus defining the scope of this labor force.

One area of significant career potential is integrated pest management, commonly referred to as IPM. It represents an approach to pest control which specifically addresses causal factors behind pest infestations. Through an integrated approach to pest management, including cultural control, mechanical-physical control, biological control, the use of resistant varieties, sanitation and legal controls, it is the expressed intent of IPM that the use of pesticides be limited and used only in conjunction with the aforementioned methods.

F. Conclusion

There exists no significant projected pesticide workforce increases in New Hampshire at the state level since resources placed into the program have been minimal. However, to accept further delegations of authority under FIFRA, it is likely that several inspectors will be added to the

state cadre for inspection and enforcement activities.

At the private/commercial level, the workforce is currently being defined, and once defined, its characteristics, i.e., turnover, new entries, can be more readily determined, thus enabling specific career potential and workforce projections.

IV. POTABLE WATER

A. Introduction

The water supply program of the State of New Hampshire is in the New Hampshire Water Supply and Pollution Control Commission. It has the responsibility for implementing statewide water supply and hygiene programs pursuant to all laws established by the New Hampshire state legislature pertaining to the safety of potable water supplies in the state. Field inspections, planning, specification and engineering reviews, laboratory analyses, and municipal technical assistance are all functions carried out by the state program. Additionally, the state is developing a program which will satisfy all requirements of the Safe Drinking Water Act (SDWA) of 1974. Activities carried out in this developmental stage include the preparation of legislation to ensure state water supply standards which are compatible with federal regulations, certification of laboratories which perform analyses of potable water, sanitary surveys, and a compliance program to ensure adequate performance standards of existing and future water supply facilities. At this time, the state of New Hampshire has every intention of accepting all delegations of authority under SDWA, and state legislation is being developed and upgraded to satisfy all primacy requirements. Currently the program is operating under a 50/50 federal/state program budget composition.

Priorities for ensuing years will be directed towards ensuring that New Hampshire successfully accepts primacy for implementing provisions and regulations under the Safe Drinking Water Act. To aid the state in this function, EPA Region I's water supply program will be

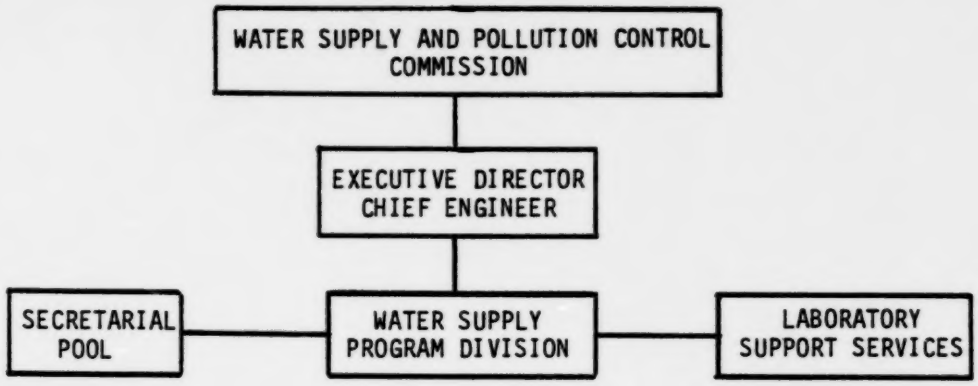
providing surveillance and analysis support as well as technical assistance as the dimension and complexity of the state's pre-primacy workload increases. As the non-community sources of potable water are identified and inventoried, pursuant to SDWA requirements, they will come under the rules and regulations of SDWA. This will likely occur sometime in 1979 and will result in a substantial state level of effort on the part of New Hampshire's water supply program personnel. Many towns and non-community supplies will encounter financial difficulties upgrading their supplies to federal standards. In addition, variances and exemptions from the Act and its accompanying regulations will require detailed processing, further increasing the program's workload under primacy.

Pursuant to the acceptance of SDWA primacy it is anticipated that over the next five years workload increases will occur during the winter of 1978 as smaller towns in the state become unable to meet interim regulations due to the lack of resources needed to finance necessary corrective alterations to existing facilities and systems. As the program approaches June of 1979, when all non-community sources must meet regulations set forth under the Act, the workload will again increase to accomodate necessary reviews for exemptions, variances, and assistance.

B. Workforce Profile

The New Hampshire Water Supply Program has the following organizational structure.

NEW HAMPSHIRE WATER SUPPLY PROGRAM



As shown, the Water Supply program is in the New Hampshire Water Supply and Pollution Control Commission which has responsibilities in regulatint both the state's drinking water and its municipal wastewater facilities. Table VI is included to depict the current staffing level of the water supply program

TABLE VI

STATE OF NEW HAMPSHIRE

New Hampshire Water Supply and Pollution Control Commission
Current (1976) Staffing Level

Position	1976
Director	1
Sanitary Engineer	4
Chemist	1
Accountant	1
Sanitarian (technician)	2
Inspector	4
TOTAL	13

Out of the 13 positions listed, eight are actively involved in actual program operation. The accountant shown is funded under the Safe Drinking Water Act of 1974 and is in the Commission's Administrative Support section. The four inspectors are employed by the program during the summer months to monitor and inspect seasonal facilities such as camps and municipal/private pools. Usually these inspectors are high school teachers with a standard science background who are available for three months to assist the program. Some water supplies are only open during the summer, so these individuals act to supplement the program as the number of inspectors required by law are at peak levels during this seasonal period. Additionally, the water supply program calls upon the services of the Laboratory Committee located within the Commission. The group has the following workforce profile shown in Table VII.

TABLE VII

STATE OF NEW HAMPSHIRE

Control Commission Laboratory Committee
Current (1976) Water Supply and Pollution Staffing Level

Position	1976
Laboratory Scientist	5
Technician	1
Lab Assistant	2
TOTAL	8

This laboratory is charged with conducting routine examinations and analyses of water supply samples from:

1) recreational camps,
2) public water supplies,
3) public swimming pools and bathing places,
4) auxiliary public water supplies,
5) private water supplies.

All investigations are conducted without charge whenever requested by the supplier or tested by the water supply program on a routine periodic inspection. Additionally, the laboratory has responsibilities to New Hampshire's water pollution control program.

Total person years devoted by the New Hampshire Water Supply and Pollution Control Commission to water supply related activities have been estimated to be sixteen for Fiscal Year 1977.

Currently the state of New Hampshire is receiving a $170,000 grant from EPA Region I to help it establish and administer a water supply program compatible with provisions of the Safe Drinking Water Act of 1974. During the second half of FY 1976, the program received an initial grant totaling $75,000.

Specifically, New Hampshire may use these federal funds to: 1) formulate and adopt state drinking water standards at least as stringent as EPA's federal standards; 2) adopt a program to certify laboratories performing drinking water analyses; 3) conduct surveillance programs, such as sanitary surveys of water systems and obtain information necessary to the granting and review of variances and exemptions to public water supplies; 4) review the design, construction, or modification of drinking water treatment facilities; 5) establish enforcement programs to assure that individual water supplies perform adequately; and 6) set up and operate the data-keeping and reporting programs required by EPA regulations.

The state match to support its water supply program amounts to $163,000, which brings the total program budget to a level of $333,600

for FY 1977. Table VIII presents all costs and workforce figures attributable to current SDWA implementation in New Hampshire.

TABLE VIII

STATE OF NEW HAMPSHIRE

State Cost and Workforce Levels for SDWA Implementation
Fiscal Year 1977

State Share	Federal Grant	Total	Person Years
$163,000 (49%)	$170,600 (51%)	$333,600 (100%)	16.0

At the local level, exact workforce statistics for the number of water supply operators have not been developed by the state water supply program due to the absence of any certification requirements for these individuals. However, estimates were provided by program officials based on their best professional judgements.

Currently, there are about 120 municipal systems serving larger, well established communities in New Hampshire. Ten of these supplies have actual treatment facilities. The rest are primarily reservoir distribution systems. It was determined that, on the average, three operating personnel were charged with operating and maintaining these systems. Thus, at the municipal level, it was estimated that about 360 individuals are involved to some extent in local water supply functions. At the small community level, generally local housing developments, it was determined that about 400 systems of this nature exist, and that, on the average, one individual is charged with total operational and maintenance responsibilities. Thus, about 400 small community operator/distributors exist in this cateogry. Non-community or private supply statistics

were unobtainable due to the unknown extent of these systems in the state. Table IX summarizes this information.

TABLE IX

STATE OF NEW HAMPSHIRE

Current (1976) Public Water Supply (est.)
Operators/Distributors

Type of Supply	Number	Avg. Staffing Level	Total
Municipal	120	3	360
Community	400	1	400
TOTAL	520	1.5	760

It should also be noted that the workforce estimate of 760 should not be considered as representative of total person years, as many of these individuals are known to have other functions within the local departments of public works.

C. Workforce Projections

Employee growth in New Hampshire's water supply program since 1975 has resulted in the addition of four individuals, two sanitary engineers and two sanitarians. In the laboratory support section, two laboratory scientists and one laboratory technician have been added. Employee turnover to date has been negligible and is a result of an extremely limited job market within the state.

Future growth through 1981 will be dependent on financial assistance available from EPA under the Safe Drinking Water Act. State funding of the water supply program is not likely to grow. This results from the fact that the state's priority commitment to its wastewater treatment

facility construction grant program has precluded any increased assistance to water supply. The following table depicts New Hampshire's likely staffing level commitments for FY 1977 and FY 1978.

TABLE X

STATE OF NEW HAMPSHIRE

Water Supply and Pollution Control Commission
Cost and Workforce Estimates for Safe Drinking
Water Act Implementation - Fiscal Years 1977 and 1978

	State Share	Federal Grant	Total	Person Years
FY 1977	$163,000	$170,600	$333,600	16.0
FY 1978	$163,000	$200,000	$363,000	18.0

As can be seen, no increases in state funding are projected. It has been suggested that the potential addition of two positions (full-time equivalent) will be utilized for community system compliance with regulations promulgated under SDWA pursuant to the state's acceptance of primacy. Projections beyond FY 1978 are indeterminable and actual state level workforce growth will be a function of the growth in federal funding.

On the local level, growth will be limited. Currently three water treatment plants are under construction in the state and all are scheduled to come on-line in the next five years. Operating personnel required by these plants should be on the order of three individuals per facility. Additionally, non-facility community water supplies should increase through residential growth; however, estimates at this time are beyond the scope of speculation. Non-community water supply personnel growth/decline is also unknown.

D. Training and Certification

The State of New Hampshire currently has no water supply operator/distributor certification program. It is one of two states in Region I in this respect, the other one being Rhode Island. Attempts were made this year to establish a formalized program; however, the suggested requirements for certification (mandatory operator certification for systems serving more than 250 people on a regular basis) were considered too stringent; and thus, the state legislature referred the bill to a committee for further study, eventually killing it. However, it is expected that within five years a formal operator certification program will be established in New Hampshire.

Training is offered by the Commission's water supply personnel to municipal operators. Currently a four-day course for operators (one day per week for four weeks) is planned. Instruction will address high level treatment technologies, and the course is for the more advanced operating personnel working at facilities in the state which currently have some sort of chemical treatment. Additionally, the New England American Water Works Association (NEAWWA) sponsors workshops for water supply operators; however, participation is a local determination and figures for New Hampshire are available.

Staff members of the state water supply program have access to a number of training options. The state of New Hampshire has a continuing education policy which allows employees to seek further education in the state's university system provided that all courses taken have a bearing on employee responsibilities. The state partially funds such endeavors

and allows time off for course attendance. Additionally, the staff attends EPA sponsored workshops and NEAWWA workshops and training seminars whenever possible. All staff brought on board under SDWA funds have received NEAWWA training. On-the-job upgrade training is also informally utilized to ensure program operation proficiency. Other training options available within the state are shown in the following chart.

FIGURE 1

Water Supply Training Programs in New Hampshire

Type of Educational Program	Sponsoring Agency	Duration and/or Degree
Water and Wastewater Treatment Plant Operator Training in Laboratory Testing and Techniques	N.H. Water Supply and Pollution Control Commission Concord, NH	10 weeks, EPA funded
Civil Engineering (emphasis on water, wastewater, and soil)	University of N.H. Durham, NH	Bachelor of Science in Civil Engineering

Finally, the EPA Office of Water Supply in Washington has developed and is implementing a thorough state and local training strategy for FY 1977. New Hampshire will more than likely impact many of these offerings if it so desires.

E. Career Potential

Career potential at both the state and local level will be extremely limited over the next five years. The staff of the program believe, however, that the recognition of radiation, viruses, and toxic substances and their effects on drinking water supplies will be areas of career development in potable water control. More than likely, however, these disciplines will develop outside of New Hampshire within the immediate future.

F. Conclusion

The water supply program of New Hampshire is eager to accept primacy under the Safe Drinking Water Act provided that the necessary legislative initiatives can be established. State funds to support primacy, however, will not be on the upswing in the immediate future; thus, a potential inequality of responsibilities and resources could arise with the assumption of primacy and its responsibilities. A state certification program for water supply operators appears to be likely in the near future. Its impact is unknown at this time, but is currently under review.

Finally, the most crucial issue facing New Hampshire and the other five New England states is centered around EPA's commitment to provide substantial amounts of funding to support state water supply programs which decide to accept all delegations of authority under SDWA. With the current outlook showing a negligible growth in projected state funding to support primacy, the success of the program in New England will be dependent upon the extent of regulatory requirements and the

degree to which EPA is willing to ensure satisfactory compliance through increased state program grants.

V. RADIATION

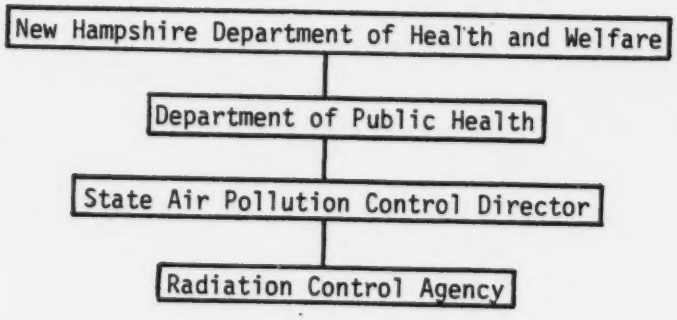
A. Introduction

The New Hampshire State Radiation Control Agency, which is administered by the director of the State Air Pollution Control Agency, both within the New Hampshire Department of Health and Welfare, is responsible for implementing statewide plans to control and limit the uses of both ionizing and non-ionizing radiation. The program licenses all users of radioactive isotopes as well as X-ray machines. There are no nuclear power plants in the state; however, the Vermont Yankee Nuclear Power Plant in Vernon, Vermont discharges its waterborne effluents into the Connecticut River which is owned by New Hampshire, resulting in a limited amount of monitoring by the New Hampshire Radiation Control Agency.

B. Workforce Profile

The New Hampshire Radiation Control Agency has the following organizational structure.

New Hampshire Radiation Control Program Organization


New Hampshire Department of Health and Welfare
Department of Public Health
State Air Pollution Control Director
Radiation Control Agency

The staff of the program is depicted in the following table.

TABLE XI

STATE OF NEW HAMPSHIRE

Department of Health and Welfare
Radiation Control Agency
Current (1976) Staffing Level

Position	1976
Program Administrator	1
Radiological Health Director	1
Radiological Health Specialist	1
TOTAL	3

The program administrator is responsible for coordinating the noise and air programs of the state; thus, less than full time is devoted by him to radiation control matters.

As far as environmental radiation monitoring is concerned less than one-half person year is devoted by this program to this activity.

C. Workforce Projections

The New Hampshire Radiation Control Program has remained at a constant workforce level for the past five years and it is expected that over the next five years, the situation will remain as it is now. As far as workforce needs are concerned, the program could utilize the assistance of an additional professional to supplement current activities in Environmental Radiation Control.

D. Training and Certification

The lead agency in offering training to the state and local governments is NRC. Section 274 of the Atomic Energy Act allows the Commission to delegate to the states regulatory authority over nuclear material shipments in quantities not capable of attaining a critical mass. A state which has a program capable of protecting public health can enter into an agreement whereby they assume the aforementioned regulatory authority. Currently New Hampshire has entered into agreement status and possesses direct responsibility for over the nuclear material licenses issued by NRC. An annual review is conducted to ensure compliance. The Department of Labor has also surrendered regulatory authority for occupational safety and health matters once New Hampshire became licensed as an Agreement State by NRC.

One unique aspect of New Hampshire's agreement status is that the Commission conducts extensive technical training programs for state personnel to ensure that the state radiological program is operating with access to the best available information on the current state of the art in radiation control. The program is funded entirely by NRC with no costs incurred by the states themselves. A partial listing of free courses offered by NRC to New Hampshire for training new employees in radiation control can be seen in the following chart.

FIGURE 2

STATE TRAINING COURSES OFFERED BY THE NUCLEAR REGULATORY COMMISSION UNDER ITS AGREEMENT STATES PROGRAM (SECTION 274 OF THE ATOMIC ENERGY ACT)

Medical Use of Radionuclides for State Regulatory Personnel

Safety Aspects of Industrial Radiography for State Regulatory Personnel

Regulatory Practices and Procedures

Inspection Procedures

Health Physics and Radiation Protection (10 week course offered at Oak Ridge; considered an important core training course for all state radiation program professionals)

Regulatory Aspects of the Use of Radioactive Material for Gas and Oil Well Logging

Source: U.S. Nuclear Regulatory Commission Annual Report, 1975.

E. Career Potential

Career Potential in Radiation Control in New Hampshire over the next five years will be at best limited. There is a possibility that the program will obtain an additional radiological health specialist; however, this is uncertain.

F. Conclusion

The Radiation Control Program in New Hampshire is currently at a staffing level which it has maintained for the previous five years. Over the next five years the acquisition of an additional radiological health specialist is possible, but not confirmed. Training for the agency's three employees is extensive as the state has obtained agreement status with NRC

which in turn conducts numerous continuing education courses free of charge. The future for radiological control careers in New Hampshire will be limited, if not nonexistent, over the next five years.

VI. SOLID WASTE

A. Introduction

The Bureau of Solid Waste Management in the State of New Hampshire is located in the Division of Public Services within the Department of Health and Welfare. Currently New Hampshire laws require every municipality to provide and maintain a sanitary disposal facility for refuse generated by its citizens. These sites are approved by the Bureau and a community must satisfy extensive testing requirements prior to site approval to ensure preservation of existing potable and surface waters.

Recently U.S. EPA Region I awarded New Hampshire a $30,000 grant to aid in the development of a comprehensive solid and hazardous waste program for FY 1977. The goals of the program will be to develop and ensure environmentally acceptable solid and hazardous waste disposal in the state. A statewide hazardous survey will be completed and a hazardous waste plan prepared. It is expected that a hazardous waste registration program could possibly develop out of this assessment.

Regulations governing the operation of an environmentally acceptable sanitary landfill were established in 1972. The regulations call for an initial plan specifying the following design data:

1) locus map
2) scaled topographic map
3) soil profiles
4) profile of fill area
5) proximity of private and public water supplies
6) access roads
7) drainage grades
8) location of streams, ponds, wetlands
9) depth of fill
10) surface and ground water control
11) gas control

12) availability of cover material
13) fencing
14) proximity to nearest dwellings
15) equipment and equipment shelters
16) existing and proposed utilities
17) employee facilities
18) operating and finished graders
19) ground water determinations
20) buffer zones
21) water for fire control
22) adjacent and abutting land use
23) property survey
24) local zoning
25) proposed sequence of use
26) standard operating procedure

Once a site has been approved by the Division of Public Health Services, periodic examinations and evaluations are conducted by representatives of the Bureau of Solid Waste. Currently there are no certification or training requirements for sanitary landfill operators.

Enforcement procedures usually consist of an initial notification of the person responsible for landfill operation when a violation is discovered. Suggestions for alleviating the problem(s) are included along with a timeline for compliance. If the facility is not upgraded accordingly, the Department of Public Health has the authority to go on-site and make all necessary improvements to satisfy New Hampshire solid waste regulations. To date, most cases have been settled out of court and have numbered quite few.

Currently New Hampshire does not possess any specific legislation regarding hazardous wastes. An industrial waste survey has been initiated to assess and identify the extent to which hazardous and industrial solid wastes are generated and disposed of within the state.

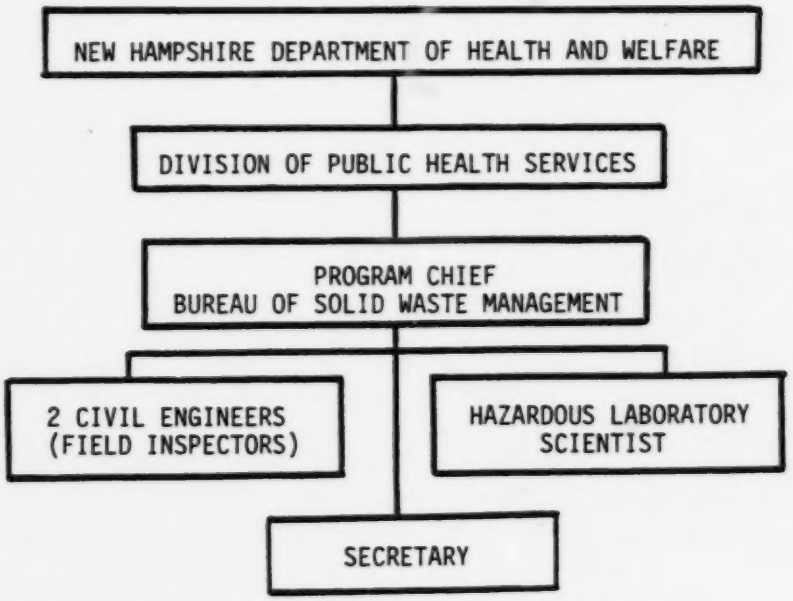
The Resource Conservation and Recovery Act of 1976 (PL 94-580) which specifically addresses both hazardous wastes and resource recovery

is likely to result in some type of hazardous waste program for the state since officials are presently exploring the feasibility of a registration program dealing with hazardous waste. It also appears that the state will develop a resource recovery plan if such an option appears practical. Currently there exists interstate cooperation with Massachusetts on utilization of a proposed facility northeast of Boston near the southern New Hampshire border.

B. Workforce Profile

The New Hampshire Solid Waste Program has the following organizational structure.

NEW HAMPSHIRE SOLID WASTE PROGRAM ORGANIZATION



As depicted, the program is located in the Department of Health and Welfare and is currently staffed by five individuals. The following table depicts the current staffing level.

TABLE XII

STATE OF NEW HAMPSHIRE

Department of Health and Welfare
Solid Waste Current (1976) Staffing Level

Position	1976
Civil Engineer	3
Scientist	1
Clerk/typist	1
TOTAL	5

In addition to the aforementioned personnel, the program also relies upon the New Hampshire State Laboratory of the same department for laboratory analysis of leachates as well as soil samples and water quality samples.

Solid waste disposal in New Hampshire is primarily managed by local governments. As shown in Chart 3 over 85 percent of the environmentally acceptable sites are publicly owned and operated. The remaining sites are divided between private investors and contractors.

FIGURE 3

NEW HAMPSHIRE LANDFILLS
(Environmentally Acceptable)

Public	Private	Contract	Total
151 (86.5%)	8 (4.5%)	16 (9%)	175

New Hampshire communities have thus far found it more desirable to own and operate public landfills, unlike their neighbor Vermont, which shows strong resistance to privately owned and operated sites. Of the 175 sites listed, about 56 can be considered major and these are currently staffed by 75 to 80 full time operating personnel. Additionally, there are twelve

small incinerators in operation within the state. These facilities average about two employees per site and generally operate two days per week. They cost about $75,000 each. Overall, the environmentally acceptable disposal sites service 78 percent of New Hampshire's population, making the state the leader in Region I as far as this critical aspect of refuse disposal is concerned. Collection within the state is presently limited to about ten towns. It has been estimated that there are about 80-100 people actively employed in this service.

Future growth i disposal facilities appears normal owing to the size of the state. Professionals have estimated that four to ten landfills will be licensed annually over the next five years within the state. Additionally, four to six small incinerators are on order by local municipalities and as long as this method of disposal is classified as environmentally sound, it has been forecasted that many towns will become attracted to its attributes, e.g., ease of operation and maintenance as well as the limited space required for siting.

Resource recovery activities within New Hampshire have developed at a good pace given the rural nature of the state and the lack of state legislation. At the present time, all efforts are made to encourage any municipality or community interested in developing their own source separation program or facility to do so. Additionally, the state cooperative extension service provides technical assistance upon request to municipalities interested in recycling costs, secondary materials markets, and quality requirements of recovered materials. No funding is available, however, f om the state, although technical assistance is offered. Currently

there are from five to six small towns with operational recycling programs and it is projected that this will increase dramatically over the next five years. In 1974, only one town, Nottingham, had a full scale operational facility. This program is still operational and a local ordinance has required mandatory source separation of all glass, metal, and paper brought to the facility by townspeople. This facility has been classified as an exemplary program after which other rural communities interested in resource recovery should model any efforts.

As previously mentioned, southern New Hampshire communities are anticipating the opening of a 3,000 ton per day waterwall incineration resource recovery plant in Haverhill, Massachusetts. Through an interstate agreement with Massachusetts several communities in New Hampshire have been invited to participate. Finally, officials estimate that within five years New Hampshire should construct a pyrolysis plant in the southern part of the state if current trends towards more intensive resource recovery are indicative of the future. Chart 4 is included to summarize resource recovery activities in New Hampshire.

FIGURE 4

RESOURCE RECOVERY ACTIVITIES IN NEW HAMPSHIRE

Location	Type	Capacity (tons/day)	Output	Cost	Status
Cumberland	--	--	Recycled paper	--	Industrial paper company operational
Dover	Separate Collection	--	Reclaimed materials	--	Operational
Durham	Recycling Center	--	Reclaimed materials	--	University of New Hampshire/Operational
Groveton	Modular combustion (small incinerator)	30	Steam	$250,000.	Operational at less than capacity since 1975
Manchester	Incinerator	--	Steam	--	Operational/supplies steam for four municipal buildings
Nottingham	Source separation	--	Color sorted glass, newsprint, corrugated, mixed paper, ferrous and aluminum cans	$55,000 in 1973, 50% town appropriation, 50% foundation grant	Operational since 1974

C. Workforce Projections

Growth over the past two years in New Hampshire solid waste has been considerable. In 1975 the program was staffed by one individual who received support from other programs in the department. Currently, there are five individuals charged with the state's solid waste management program. With the recent passage of PL 94-580 (the Resource Conservation and Recovery Act of 1976) New Hampshire has determined that its program will supplement its current staff with two to three more professionals over the next five year period, pursuant to appropriate federal funding. These individuals likely will have field experience and, in particular, will possess an intimate knowledge of hazardous wastes, their collection, transportation, storage, and ultimate disposal. With the likelihood of a state licensing program, these individuals should provide the necessary expertise and knowledge to make it viable.

At the local-private and municipal level normal growth will prevail. With four to ten new sanitary landfills anticipated each year, a comparable number of individuals will be required for operation. Likewise, as more towns install small incinerators, a cadre of operation and maintenance personnel will be required. Additionally, a pyrolysis plant anticipated to be constructed sometime over the next five years will require a somewhat more sophisticated group of professionals for proper operation. Growth will be limited and will be a function of both the size of New Hampshire's population as well as its per annum growth rate. Non-workforce related growth will occur as communities move towards small scale source reduction and source separation. Personnel employed by the

municipal solid waste department would assume responsibilities if such a program were to develop within their community. Otherwise, it appears that there will be only a very small increase in the labor force in resource recovery related activities.

D. Training and Certification

Formalized training and/or certification for state solid waste personnel is currently lacking, although it is the concensus of opinion that all professionals should be engaged in some sort of formal continuing education program. The reason behind this situation emanates solely from the lack of available funds to finance such training as well as the absence of such curricula within the state. Individuals do attend several EPA Region I workshops, briefings, and seminars; however, they are few in number. The major concern of New Hampshire's Bureau of Solid Waste Management is directed toward the relative absence of continuous technical assistance from EPA. With the advent of PL 94-580 and the heavy emphasis on hazardous waste management, the staff believes it could benefit from increased technical assistance covering field as well as solid waste management.

Finally, although no formal sanitary landfill operator certification program exists at the present time, it is conceivable that within the next five years New Hampshire might implement a formal operator certification and training program. The biggest problem the state is currently faced with is the operator who does not fully understand safe landfill operation. However, towns have proven very capable in selecting individuals to operate municipal solid waste disposal facilities. The state

wishes to maintain this record by implementing a comprehensive certification and continuing education program for these individuals. The training provisions in PL 94-580 should make this program a reality if funds can be impacted. Funds have been provided under this act for state solid waste programs to develop and implement training programs to train individuals for occupations in solid waste management. Additionally, funds will be available to train instructors and supervisory personnel to train or supervise workforce involved in solid waste management. Hopefully, New Hampshire's commitment to operator certification will become a reality.

E. Career Potential

Careers in landfill and incinerator operation should develop at a moderate pace (see Workforce Projections) and resource recovery careers will be limited owing to the source separation emphasis as opposed to complex facility development. A contemplated pyrolysis plant could possibly result in a number of technically and professionally oriented careers; however, their numbers will be restricted. Within the state program, professionals proficient in hazardous waste management should be required; however, again, their numbers will be limited.

F. Conclusion

Despite a small staff, the state may be said to have an environmentally sound local solid waste disposal. Additionally, despite the absence of a formal public affairs program, the staff has briefed all interested municipal groups and organizations on state solid waste

laws, regulations, and alternatives to special refuse problems. Overall, it has established a strong commitment to environmentally sound solid waste practices within the state. Despite a limited workforce growth potential, future program prospects appear bright. Resource recovery activities will be encouraged and are projected to grow within the state through a variety of ways, including interstate cooperation. A sanitary landfill operator training program is in the formative stages and a comprehensive hazardous waste program appears to be developing.

On the legislative side, a new solid waste bill has been introduced to give the bureau control over all storage and collection activities, transfer station facilities, and liquid waste disposal. Although no returnable container legislation has been introduced and the governor has gone on the record against one, New Hampshire is likely to face the issue in the near future as two of three of its bordering states have recently enacted such bills.

VII. WASTEWATER

A. Introduction

The New Hampshire Water Supply and Pollution Control Commission is the agency concerned with the management of wastewater facilities. The Commission is currently receiving $271,800 for FY 1977 to support its water pollution control program. These funds are being used to establish and maintain adequate measures for the prevention and control of water pollution through:

1) planning and surveillance,
2) enforcement,
3) training,
4) assistance to local agencies.

Additionally, EPA has awarded the Commission a $69,750 grant to develop a plan for water pollution control at the Penigewasset Interceptor in Franklin. The discharge of untreated wastewater into the Winnipesaukee and Penigewasset Rivers will be eliminated through this project. This project is part of the Winnipesaukee River Basin Program which is operated directly by the Water Supply and Pollution Control state program.

The Commission's greatest responsibility under the Federal Water Pollution Control Act (FWPCA) is the distribution of construction grant funds to the cities and towns of the state by authority of FWPCA. Funding offered under this program currently provides 75 percent of the total cost of constructing municipal wastewater treatment plants, interceptor sewers, and pumping stations. The remaining 25 percent is financed by the state and local governmnets in the form of a 15 percent state match and a 10 percent local contribution.

The New Hampshire Water Supply and Pollution Control Commission has as its goal the attainment of a level of water quality in New Hampshire by 1983 that will protect aquatic life and be clean enough for swimming and other recreational uses. FWPCA requires New Hampshire to achieve this goal through a two-phase approach. The first phase, to be completed by July 1, 1977, requires that industry use the best practicable technology to control pollution, and that public treatment plants provide at least secondary treatment. By the completion of the second phase on July 1, 1983, New Hampshire industry must use the best available technology, and public facilities must provide the best practicable technology for water pollution control.

FWPCA is administered by EPA and New Hampshire through two programs provided by the Act - a construction grant program and a discharge permit program. The construction grant program, as previously mentioned, provides funds for the construction of municipal wastewater treatment facilities. Prior to awarding a community funding to initiate such a facility, the application must be reviewed for both design and specifications.

As can be seen in the following chart, New Hampshire had obligated 78 percent of available funding under FWPCA one year before the scheduled deadline of September 30, 1977. It has been estimated that the monies obligated so far have created numerous engineering and construction jobs as well as permanent jobs involved in the operation and maintenance (O & M) of these new facilities. With a substantial amount of funding to be obligated within the next year, professionals have judged that additional engineering and construction jobs will be created.

FIGURE 5

STATUS OF NEW HAMPSHIRE CONSTRUCTION GRANTS PROGRAM

FUNDING AS OF JANUARY 1, 1977

Funds Authorized (Millions)	Funds Obligated (Millions)	Funds Remaining* (Millions)	Percent Remaining (%)
153.8	120.2	33.6	22%

*Deadline for obligating these funds is September 30, 1977.

The other major program under FWPCA is the National Pollutant Discharge Elimination System (NPDES), a permit program to regulate the amount of pollutants discharged into the waters. The Commission, together with EPA, has the responsibility to set standards for the effluent limitations or the maximum amount of pollutants that can be discharged into a body of water. While sources of this pollution such as municipal waste treatment plants and industrial plants must monitor and report on the waste discharged, the state and EPA have the authority for the issuance and enforcement of the permits.

The areawide waste treatment program is mandated by Section 208 of the Federal Water Pollution Control Act and stresses planning by local New Hampshire governments to find and implement solutions to their water quality management problems. Specifically, the information included within an areawide waste treatment management plan identifies the following six major areas of concern in long range water quality planning:

1) Determination of the number of wastewater treatment facilities needed to maintain acceptable water quality over the next 20 years.

2) Identification of the management and functional structure for implementation over this period.

3) Identification and development of a long range methodology for dealing with non-point source pollution.

4) Determination of required long term financial arrangements of the implementing organization(s); time requirements, anticipated costs, and an environmental and economic impact statement on the area designated under the plan.

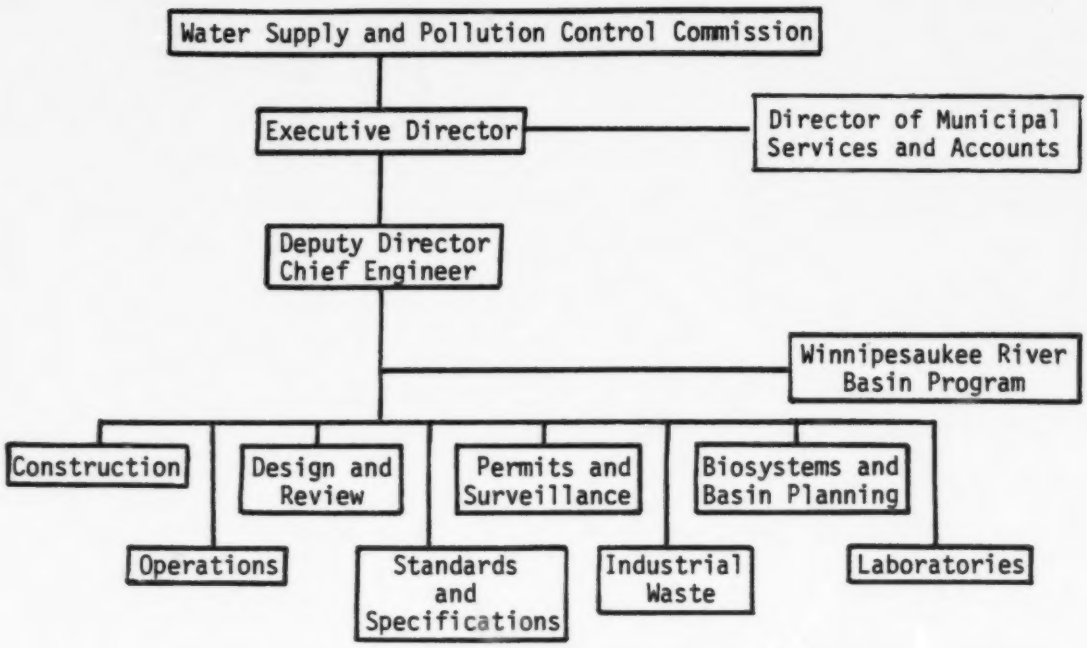
5) Definition of those methods to be utilized in disposal of sludge and treated water from those plants within its jurisdiction.

The relationship between the 208 program, the construction grant program, and the NPDES program in New Hampshire is unique. Both NPDES and construction grants deal with easily identifiable point source water pollution which can be corrected given enough money and technology. In New Hampshire these point source problems are coming under control as the result of these two programs; however, non-point source water pollution, such as urban and agricultural runoff cannot be dealt with to any extent through these aforementioned programs. The 208 program in New Hampshire provides the mechanism whereby these non-point sources are identified and alleviated by intensive areawide assessments and planning. Through this three tiered approach, federal water quality standards can be attained in the state.

B. Workforce Profile

The wastewater program of the New Hampshire Water Pollution and Control Commission has the following organizational structure.

New Hampshire Wastewater Program



The staffing level of the New Hampshire Water Supply and Pollution Control Commission which is charged with wastewater related activities is presented in the following table.

TABLE XIII

STATE OF NEW HAMPSHIRE

Water Supply and Pollution Control Commission
Current (1976) Staffing Level

Position	1976
Administrative	6
Engineer	
Sanitary	22
Civil	11
Public Works	1
Soils	1
Aquatic Biologist	3
Biologist (summer)	1
Pesticide Scientist	1
Laboratory Scientist	7

TABLE XIII (continued)

Archaeologist (temporary)	1
Sanitarian	28
Technician	
Aquatic (summer)	3
Accounting	2
Water Pollution	6
Laboratory	2
Laboratory (summer)	1
Laboratory Helper (part-time)	2
Clerk/stenographer	9
TOTAL	107

The total staffing level of 107 positions does not necessarily reflect total person years devoted to wastewater matters as many administrative, laboratory, and clerical employees share dual responsibilities with water supply functions. However, approximately 70-85 person years are spent full-time on wastewater programs under PL 92-400 (FWPCA).

A general overview of New Hampshire Water Supply and Pollution Control personnel shows that most sanitary and civil engineers are registered professional engineers (P.E) and hold at least a masters degree. As a rule, qualification requirements for employment with the Commission are very high and, as a result, many positions are hard to fill immediately. Advancement within the Agency is very limited and results only through attrition or new job openings. Recently, when a number of positions in water supply, as a consequence of the Safe Drinking Water Act became available a few individuals chose to transfer from wastewater to water supply. One interesting aspect of the workforce profile worth explanation concerns the archaeologist. Through the construction grant program (sewer extensions)

many Indian artifacts have been unearthed at construction sites, and the Commission chose to employ a part-time archaeologist to tag and recover these relics.

Finally, the list of water pollution positions and educational requirements shown in the following table are provided by the Commission.

TABLE XIV

STATE OF NEW HAMPSHIRE

Water Pollution Positions and Education Requirements

Positions	H.S.	B.S.	M.S.	P.E.
Clerk Steno II	X			
Water Pollution Technician	X			
Water Pollution Sanitarian	X	X		
Civil Engineer I	X	X		
Civil Engineer II	X	X		
Civil Engineer III	X	X		
Civil Engineer IV	X	X		X
Civil Engineer V	X	X		X
Sanitary Engineer I	X	X		
Sanitary Engineer II	X	X	X	
Sanitary Engineer III	X	X	X	X
Chemist I	X	X		
Chemist II	X	X		
Chemist III	X	X	X	

C. Workforce Projections

Specific five year growth estimates for the New Hampshire state wastewater program are not easily discernible; however, professionals felt that at least one environmental engineer, one soil scientist, and one public health specialist would be acquired by the program in the immediate future. Of course, the realization of these additions is dependent upon the future growth/decline of both federal and state funding sources. Turnover in the program has been less than one employee per year.

At the local level it is anticipated that the operator workforce would have approximately 30 new entries per annum. Attrition rates were not available when this research was conducted.

D. Training and Certification

The New Hampshire Water Supply and Pollution Control Commission certifies operators of wastewater treatment plants within the state to:

1) assure that operators of pollution control facilities are suitably qualified and have the knowledge and ability to properly operate and maintain such facilities.

2) help assure optimum treatment of all wastewaters in facilities provided, prior to discharge to surface waters of the state.

Operators desiring to be certified in the state must file an application with the Commission at least 30 days prior to any announced written exam. Upon successful completion of this written exam the operator must pass an oral examination prior to certification.

There are six grades of operators which coincide with the classifications of plants as previously described. Any operator must hold a certificate comparable to or greater than the classification of the plant at which he/she is employed.

Additionally, except for Grade 1 requirements, substitution of education for work can be made on the following basis.

Extent of Education	Experience Equivalent
Bachelor's degree	
In sanitary, chemical or public health engineering	5 years
In civil, mechanical or electrical engineering	4 years
In chemistry or bacteriology	4 years
In other fields or an associate degree in the above specialized areas	3 years
Graduation from Vocational-Technical School	2 years

Education offered in the state in water pollution control related fields is summarized in the following chart.

FIGURE 6

SELECT WASTEWATER TRAINING PROGRAMS IN NEW HAMPSHIRE

Type of Educational Program	Sponsoring School	Duration and/or degree
Wastewater Treatment Plant Operator Training in Process Control Techniques	NH Water Supply and Pollution Control Commission Concord, NH	6 weeks, EPA funded
Water and Wastewater Treatment Plant Operator Training in Laboratory Testing and Techniques	NH Water Supply and Pollution Control Commission Concord, NH	10 weeks, EPA funded
Civil Engineering (emphasis on water, wastewater, and soil)	University of NH Durham, NH	Bachelor of Science in CE

FIGURE 6 (continued)

Type of Educational Program	Sponsoring School	Duration and/or degree
Environmental Engineering Option (emphasis on water, air, and land resources)	University of NH Durham, NH	Bachelor of Science

Training for individuals employed by the New Hampshire Water Supply and Pollution Control Commission comes primarily in the form of upgrade training courses sponsored by the state university. New Hampshire's liberal educational policy permits state employees to attend courses which relate to the content of their work for the state. The state pays partially for both tuition and books and allows job release time. Generally, the University tends to work with the Commission to streamline the courses. It has been estimated that greater than 20% of all Commission employees have secured some type of further education under this system. Occasionally, the Commission will also teach courses at area local colleges and vocational technical schools.

E. Career Potential

The greatest potential for future employment over the next five years will occur at the municipal level as well as in private industry. The construction grant program and the NPDES program have had their greatest impact on these two sectors; and, with the increased number of wastewater facilities in operation (including industrial pretreatment facilities), as well as an increased level in complexity of operation of these plants, the demand for technically competent operations and maintenance personnel will continue. In the private sector, on-site construction-related

careers will continue to develop over the duration of facilities construction, most likely through the end of this decade. Additionally, indirect employment from this federal grant program should provide sustained career opportunities for engineering consultants and other contractual professionals as a result of the increase in facility numbers and complexity. At the state level, employment with the New Hampshire Water Supply and Pollution Control Commission will be limited to only a few careers in engineering, soil science, and the public health field.

F. Conclusion

The New Hampshire Water Supply and Pollution Control Commission is responsible for improving and maintaining the quality of water in the state. This charge is carried out through an EPA sponsored construction grant program to finance local wastewater treatment facilities as well as a discharge permit system. Additionally, areawide waste management in the state attempts to identify and control those sources of pollution which are not generated from one particular identifiable and confined source. Agricultural runoff is an example.

Currently the Commission is an independent agency in the state and has 107 employees with 8 being part-time or seasonal. Employment requirements are strict and advancement restricted.

The Commission is in charge of certifying waste treatment plant operators in the state through examination, both oral and written. Six different certificates are awarded dependent upon the extent of experience and knowledge possessed by the operator. A Grade VI operator is considered

the most experienced and is qualified to run any plant in the state. Training offered by the Commission is in the form of EPA sponsored short duration courses in plant operation.

Finally, the potential for operator careers appears promising due to the growth of new wastewater plants. Construction related careers will also flourish as the state obligates its remaining 34 million dollars under the FWPCA Constitution Grant Program. At the state level workforce growth is likely to be limited to the acquisition of three professionals. Attrition at the Commission is insignificant and will likely to offer few career openings.

VIII. ENERGY

Abundant water power was the key to early industrial growth in New Hampshire. Modern energy sources are not so prevalent in the state. Heavy dependence upon oil for industry and space heating has become a handicap to the economy. New Hampshire manufacturers cannot compete with companies located in regions where energy costs (particularly natural gas) are as much as 50% less.

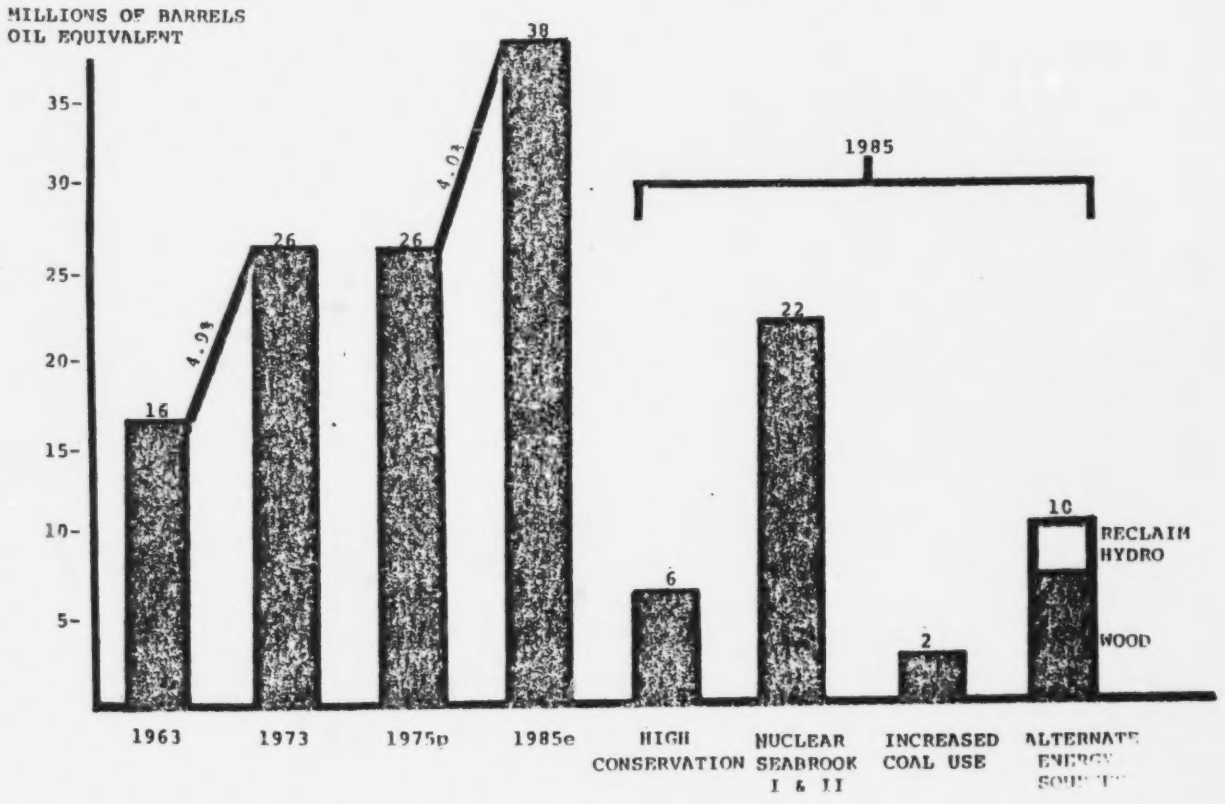
New Hampshire has turned to nuclear power as a possible solution to its energy problem. Public Service of New Hampshire has one unit under construction and another unit under review to be located at Seabrook. Both are expected to generate 1,200 megawatts. The first is scheduled for completion in 1981 or 1982, and the second in1983 or 1984. The project has come under heavy fire from environmental interest groups because of thermal discharge that may disrupt sea life.

The following chart, prepared by the Federal Energy Administration, Region I, depicts the relative significance of the nuclear plant to New Hampshire's energy planning. Also shown are potential oil savings to be achieved by converting power-generating plants from oil to coal and wood. The potential savings by returning to New Hampshire's original energy advantage, water power, is hoped to be effected through agreements with Canadian provinces for hydro-electric power generation.

The Governor's Council on Energy was created by Executive Order in June of 1973 to develop programs regarding distribution and consumption of fuel and energy. It administers the fuel allocation program and has compiled data sources for use in supply/demand projections for the New England Energy Management Information System.

OIL USE AND POTENTIAL SAVINGS
NEW HAMPSHIRE

Figure 7



Selected Post Secondary Institutions
With Formal Environmental Energy Programs

There are several colleges and universities in New Hampshire that offer programs in environmental science and pollution control technology. Three programs have been selected for an indepth review: Environmental Studies, offered through New England College; Natural Resource Management, available at New Hampshire Vocational Technical College; and, Environmental Studies Emphasis, an elective at Dartmouth.

The Natural Resource Management Program is an associate degree program. Several career options are available to students electing this major: General, Forest Management Technician, Forest Nursery Technician, Forest Survey Technician, Parks and Recreation Technician, Soil Conservation Technician, Water Supply Technician, Plane Surveying Technician, Wastewater Technician, Land Planning Technician, and Cartography Technician.

The bachelor's program in Environmental Studies, offered through New England College, emphasizes a generalist training, with particular focus upon science and technology courses.

Dartmouth has a program in Environmental Studies. In order to obtain an "Emphasis" in Environmental Studies, each student is required to enroll in a minimum of four courses. General courses in environment, environmental law, and environmental health are among the program's offerings.

In the following section of this report, these three programs have been examined with regard to course offering, student statistics, and faculty support.

Information on these programs was gathered from college catalogs and from interviews with department heads and faculty members at each of the institutions. Only a small percentage of the schools in each state is included in the sample; thus, the programs outlined in this report represent select training programs available at colleges and universities in the state.

SENIOR INSTITUTIONS

Dartmouth
Hanover, New Hampshire

Program: Environmental Studies Emphasis

Hours required for a major: 4 courses
Program Inception: 1970
Staff Size: Six professors (3 Ph.D., 2 J.D., 1 M.S.)
Enrollment: not available
Graduates (1976): not available
Placement: not available
Graduate Work: not available

Courses

Man's Dependence and Effect on His Natural Environment
Earth as an Ecosystem
Social and Poltical Aspects of the Environment
International Environmental Problems
The Growth Debate
Energy
Introduction to Environmental Systems
Foreign Study in Environmental Problems I, II
Population Problems
Environmental Policy Formulation
Environmental Ethics
Nature Writers
Land Use Policy
Environmental Journalism
Land Resources: Policy and Planning
Energy Policy
Organizational Ecology
Environmental Law
Environmental Health
Independent Study and Research

New England College
Henniker, New Hampshire

Program: Environmental Studies (B.S.)

Hours required for major: Semester - 32
Program Inception: 1968
Staff Size: Five associate professors (4 Ph.D., 1 M.S.)
Enrollment: 50
Graduates (1976): 10
Placement: information not currently available
Graduate Work (M.S.): 2

Courses (Selected)

Nature and Man
Introduction to Biological Diversity
Field Biology
General Chemistry
Geomorphology
Public Health Engineering
Urban and Regional Planning
Fortran
Natural History
Seminar in Environmental Science
Chemistry and the Environment
Introduction to Marine Sciences
Marine Science Summer Institute
The Universe of Man: An Evolutionary Approach
Topics in Environmental Studies
Alternative World Futures: An Ecological Perspective
Directed Study in Environmental Studies
Independent Study in Environmental Studies
Environmental Studies Internships

COMMUNITY COLLEGES/TECHNICAL INSTITUTIONS

New Hampshire Vocational Technical College
Berlin, New Hampshire

Program: Natural Resource Management (A.S.)

Hours required for major: Quarter - 109-115
Program Inception: 1974
Staff Size: Two associate professors, one instructor (1 Ph.D., 1 M.S., and 1 B.S.).
Enrollment: 35
Graduates (1976): 7
Placement: 7
Graduate Work: 0

Courses: General

Basic Drafting
Biology
Introduction to Forestry
Environmental Microbiology
Environmental Field Identification
Data Storage and Information Retrieval
Basic Algebra
Basic Trigonometry
Introduction to Soils
Chemistry
Topographic Drafting
Ecology and the Environment
Intermediate Algebra
Geology
Engineering Math
Water and Wastewater

Courses: Forest Management Technician

Forest Mensuration
Small Business Management I, II
Forest Products Utilization
Forest and Watershed Protection
Forest Management Problems

Courses: Forest Nursery Technician

Landscape Design
Forest Soils
Plant Propagation
Silviculture
Plant Pathology
Forest Nursery Problems

Courses: Forest Survey Technician

Forest Mensuration
Dendrology
Methods of Surveying
Construction Surveying
Surveying Practice and the Law
Forest Survey Problems

Courses: Parks and Recreation Technician

Construction Surveying
Landscape Design
Forest Soils
Construction Materials
Construction Equipment
Parks and Recreation Problems

Courses: Soil Conservation Technician

Methods of Surveying
Forest Soils
Hydrology
Crop Science
Forest and Watershed Protection
Soil Conservation Problems

Courses: Water Supply Technician

Water Supply and Distribution
Hydrology
Construction Surveying
Water Purification
Forest and Watershed Protection
Water Supply Problems

Courses: Plane Surveying Technician

Methods of Surveying
Land Use Regulations
Surveying and Mapping
Surveying Practice and the Law
Plane Surveying Problems
Advanced Plane Surveying Problems

Courses: Wastewater Technician

Methods of Surveying
Waste Collection Systems
Hydrology
Water Purification
Construction Surveying
Wastewater Treatment Problems

Courses: Land Planning Technician

Methods of Surveying
Land Use Regulations
Landscape Design
Water and Wastewater
Land Planning
Land Planning Problems

Courses: Cartography Technician

Geodetics
Methods of Surveying
Surveying and Mapping
Hydrographics
Photogrammetry
Cartography Technician Problems

State Legislation

NEW HAMPSHIRE AIR

TITLE:

Air Pollution Control Law
New Hampshire Statutes 125:78

PURPOSE:

To achieve and maintain a reasonable degree of purity of the air resources of the state so as to promote the public health, welfare, and safety, prevent injury or detrimate to human, plant, and animal life, and promote the economic and social development of the state.

DEFINITIONS:

1. Air pollution
2. Air contaminant
3. Emission
4. Agency
5. Commission
6. Person
7. Device which contributes to air pollution
8. Clean Air Act
9. Director

ADMINISTERING AUTHORITY:

Department of Health and Welfare
Air Pollution Commission

AUTHORIZATIONS:

To develop a comprehensive program for the study, prevention, and abatement of air pollution;
To administer and enforce air pollution control activities in the state;
To conduct studies relating to air pollution;
To encourage local cooperation in preventing and controlling air pollution;

AUTHORIZATIONS (cont'd):

To issue regulations pursuant to the act;
To enter and inspect property in enforcement of the act;
To act as the state lead agency in air pollution matters;
To administer a permit program for the construction and operation of stationary sources of air pollution;
To issue variances under the act;
To declare air pollution emergencies;
To generally enforce the act.

PROHIBITED ACTS:

To install or operate any pollution control device without the proper permit;
To fail to abate air pollution as required.

PENALTIES:

Fines of from $100 to $1,000.

NEW HAMPSHIRE PESTICIDES

TITLE:

Pesticides Control Act
New Hampshire Statutes 149-D

PURPOSE:

To recognize and promote the beneficial use of pesticides in the state, and to safeguard the public health and welfare by insuring proper application of chemical pesticides.

DEFINITIONS:

1. Board
2. Commercial application
3. Commercial applicator
4. Defoliant
5. Desiccant
6. Person
7. Pest
8. Pesticide
9. Plant regulator

ADMINISTERING AUTHORITY:

Department of Agriculture
Pesticides Control Board

AUTHORIZATIONS:

To issue regulations and enforce the act;
To categorize pesticides and restrict their usage;
To enter and inspect property in enforcement of the act;
To establish certification standards;
To certify commercial and private applicators;
To license pesticide dealers;
To submit and maintain state pesticide plans.

CERTIFICATION OR LICENSING:

Certificates issued for operational and supervisory categories; supervisory level has several requirements.
Must be certified to use restricted pesticides; dealers must be licensed.

PROHIBITED ACTS:

To engage in commercial application without registration;
To use restricted pesticides without proper certification;
To sell restricted pesticides without a license;
To violate regulations issued pursuant to the act.

EXEMPTIONS:

Governmental research; use by owner around own building.

PENALTIES:

Civil - fines of up to $5,000;
Criminal - violations constitute misdemeanor.

NEW HAMPSHIRE RADIATION

TITLE:

Radiation Protection and Control Law
New Hampshire Statutes 125.56

PURPOSE:

To provide a program of effective regulation of ionizing and non-ionizing radiation sources, and for the protection of occupational and public health and safety.

DEFINITIONS:

1. Department
2. Unnecessary radiation
3. Byproduct material
4. Ionizing radiation
5. General license
6. Specific license
7. Person
8. Source material
9. Special nuclear material
10. Registration
11. Radiation machine
12. Radioactive material
13. Nonionizing radiation

ADMINISTERING AUTHORITY:

Department of Health and Welfare
Radiation Advisory Committee

AUTHORIZATIONS:

To develop a radiation hazards policy;
To issue regulations relating to unnecessary radiation and radiation hazards;
To conduct radiation studies and investigations;
To review plans for radiation sources
To issue general and specific licenses for various radioactive materials;
To require registration of ionizing radiation sources.

PROHIBITED ACTS:

To use, own manufacture or possess any unregistered radiation source;
To fail to employ proper shielding as required;
To violate other act provisions.

EXEMPTIONS:

Can be established by regulation.

PENALTIES:

Violation constitutes a misdemeanor for natural persons, a felony for other violators.

NRC AGREEMENT STATE: Yes

NEW HAMPSHIRE SOLID WASTE

TITLE:

Laws Relating to Solid Waste Disposal
New Hampshire Statutes 147:23

PURPOSE:

To provide for the local and regional disposal of solid waste.

DEFINITIONS:

1. Garbage
2. Manure
3. Putrescible waste
4. Refuse
5. Public disposal facility
6. Private disposal facility
7. Waste matter
8. Division
9. Refuse disposal facility

ADMINISTERING AUTHORITY:

Division of Public Health Services
Local Governmental Units

AUTHORIZATIONS:

To provide and maintain public disposal facilities for garbage, refuse, manure and putrescible materials;
To inspect refuse disposal facilities and provide technical assistance to local governmental units;
To approve all public disposal facilities;
To issue regulations pursuant to the act relating to public disposal facilities;
To enter into regional or bilateral refuse disposal district agreements;
To control all forms of pollution in and around refuse disposal facilities.

PROHIBITED ACTS:

To fail to provide a proper public disposal facility;
To dispose of waste from out of state at public disposal facilities;
To maintain a private disposal site;
To violate any other provisions of the act.

EXEMPTIONS:

Local governmental units may be exempted from providing public disposal facilities by the Division;
The maintenance of a dump site on a persons own property for his own use;
The disposal of out of state wastes in regional refuse disposal situations.

PENALTIES:

Fines of from $100 to $2,000 or 60 days in jail.

NEW HAMPSHIRE WASTE WATER

TITLE:

Oil Spillage in Public Waters Law
New Hampshire Statutes 146-A:1

PURPOSE:

To cope with the problem of pollution from the spillage of oil, recognizing the damage resulting to vegetation, marine, animal and bird life from oil spillage.

DEFINITIONS:

1. Oil
2. Oil terminal facility
3. Operate or Operator
4. Person
5. Vessel

ADMINISTERING AUTHORITY:

Water Supply and Pollution Control Commission

AUTHORIZATIONS:

To be responsible for all oil spill cleanup operations in the state;
To issue regulations pursuant to the act;
To undertake oil spill emergency operations;
To generally enforce the act.

PROHIBITED ACTS:

To discharge or spill oil into the public surface and ground waters of the state.
To fail to report any oil spills to the proper authorities;

PROHIBITED ACTS (Cont'd):

To violate any other provisions of the act or regulations issued pursuant to the act.

PENALTIES:

Local violations - fines of up to $1,000 or one year imprisonment;
Liability also imposed for the cost of all cleanup operations.

NEW HAMPSHIRE WASTE WATER

TITLE:

Water Pollution Control Law
New Hampshire Statutes 149

PURPOSE:

To provide for the general control of water pollution matters in the state and to create a water supply and pollution control commission.

DEFINITIONS:

1. Sewage
2. Industrial waste
3. Other wastes
4. Waste
5. Surface waters of the state
6. Commission
7. Person
8. Ground waters

ADMINISTERING AUTHORITY:

Water Supply and Pollution Control Commission

AUTHORIZATIONS:

To conduct studies and investigations regarding water pollution;
To supervise and enforce the act;
To approve sewage and industrial waste treatment facilities;
To equip and operate laboratories;
To develop a long-term state water purity policy;
To issue regulations pursuant to the act;
To classify all surface waters of the state.

PROHIBITED ACTS:

To discharge into waters to affect their quality;
To discharge into state waters without proper permit;
To undertake certain dredging operations without permit;
To violate other regulations.

PENALTIES:

General violation - fines of up to $10,000 per day;
Willful violations - fines of up to $25,000 per day or six months imprisonment.